DOCUMENT RESUME

ED 355 791 FL 021 054

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TITLE How Can a Mess Be Fine? Polysemy and Reading in a Foreign Language.
PUB DATE 93
NOTE 16p.; For serial issue in which this paper appears, see FL 021 050.
PUB TYPE Speeches/Conference Papers (150) -- Viewpoints (Opinion/Position Papers, Essays, etc.) (120) -- Journal Articles (080)
JOURNAL CIT Mid-Atlantic Journal of Foreign Language Pedagogy; v1 p35-49 Spr 1993

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS English (Second Language); Learning Activities; Reading Research; *Reading Skills; Second Language Instruction; *Second Language Learning; *Skill Development; Teaching Methods; *Vocabulary Development
IDENTIFIERS *Polysemy

ABSTRACT

This article discusses polysemy in terms of foreign language reading and vocabulary development. For some foreign language readers, polysemy can be a major source of difficulty in the comprehension of text, even more so than a lack of vocabulary knowledge. Research with non-native readers of English has indicated that even advanced readers, upon encountering words with multiple meanings, may ascribe previously learned meanings to the words even though those meanings are quite incongruent with the context in which the words are found. This often results in strange interpretations that are inconsistent with the rest of the story. Pedagogical implications of polysemy in regards to the interrelationships between reading and vocabulary development are discussed. The strengths and weaknesses of various vocabulary development activities, such as activities to sensitize learners to common concepts underlying different polysemous meanings of a particular word, are outlined. In conclusion, the article stresses the importance of helping the learner learn ways to develop not only a breadth but also a depth of vocabulary knowledge, as well as further development of the learner's cognitive and metacognitive reading skills so that the language learner will be better prepared to deal with the problems of polysemy when reading in a foreign language. (Author)

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HOW CAN A MESS BE FINE? POLYSEMY AND READING IN A FOREIGN LANGUAGE

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Abstract

This article discusses polysemy in terms of foreign language reading and vocabulary development. For some foreign language readers, polysemy can be a major source of difficulty in the comprehension of text, even more so than a lack of vocabulary knowledge. Research with non-native readers of English has indicated that even advanced readers, upon encountering words with multiple meanings, may ascribe previously learned meanings to the words even though the meanings are quite incongruent with the context in which the words are found. This often resulted in strange interpretations that were inconsistent with the rest of the story.

Pedagogical implications of polysemy in regards to the interrelationships between reading and vocabulary development are discussed. The strengths and weaknesses of various vocabulary development activities, such as activities to sensitize learners to common concepts underlying different polysemous meanings of a particular word, are outlined. In conclusion, the article stresses the importance of helping the learner learn ways to develop not only a breadth but also a depth of vocabulary knowledge, as well as further development of the learner's cognitive and metacognitive reading skills, so that the language learner will be better prepared to deal with the problems of polysemy when reading in a foreign language.

Introduction

Polysemy is one of the multitude of aspects of language that foreign or second language learners have to deal with when comprehending text. Not only must learners be concerned with what they don't know as they process and try to comprehend foreign language text, but they also may sometimes have to watch out for what they do know. In the comprehension of foreign language text, it is not always so much a matter of what the readers do not understand, but what they think they understand yet misinterpret, that negatively influences their interpretation of the text. In particular, the selection of different polysemous meanings of some words other than what the author had intended can have a significantly negative impact upon a reader's interpretation of foreign language text.

A recent experience with non-native readers of English served to illustrate just how much of a factor polysemy can be in the comprehension and interpretation of foreign language text. While conducting research on the reading abilities and skills of adult learners of English as a Second Language (ESL), the author noticed some difficulties that a subject was having when he encountered words with multiple meanings in the text. The title of this article, for example, comes from a comment made by this subject when he encountered a sentence in the text that read, "They'll make a fine mess on my poor carpets." Knowing only the meaning of "fine" as "of high quality" or "beautiful", the subject tried (unsuccessfully) to figure out how a mess could be considered a good thing, not realizing that "fine" had another meaning in this context, that of "terrible, awful".

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I began noticing other subjects having problems with this and other polysemous words in the text. One subject even commented at the end of a passage that a major problem he had with reading in English was interpreting a word a certain way and later finding out that the meaning that he had assigned was wrong:

> When I read in Korean, I can have quite an accurate thought on each word, but when I read in English, even though I understand the meaning, I don't quite understand which meaning I should apply in any given situation among many possible meanings, because every word has many different meanings, depending on different situations. So when I read in English, just reading the text once, I don't quite understand what the story is about, because I am not sure when to choose which particular meaning to where, so I don't get the whole concept...

From these indications of the potential for multiple meanings of words to cause problems in reading, I decided to analyze the data from the subjects' protocols further for misinterpretations due to assigning the wrong meaning to words and investigate this potential for multiple meanings of words to negatively affect the comprehension of foreign language text.

This article is the result of this investigation into polysemy and reading in a foreign or second language. After a brief clarification of the definition of polysemy and a look at the limited amount of research that has been done on polysemy and reading, the results of this investigation will be presented and discussed, with implications for the foreign or second language classroom identified and discussed.

Definitions, Problem, and Purpose

It may be helpful to first take a look at exactly what is meant by polysemy and to distinguish it from the phenomenon of homonymy. Polysemy is the phenomenon of one word with more than one meaning, but usually with some aspect of these meanings common across contexts. For example, the word "line" can be associated with drawing, fishing, or railways; all three meanings share physical properties of material covering space between two points, and the different senses of the word are close. (Carter 1987: 11-12). Homonymy is the phenomenon of words that have the same form but different, unrelated meanings. For example, the word "bank" can refer to a financial institution or the edge of a river, or the word "race" can refer to a people or a sporting event. The different meanings of such homonymous words are "so distant as to be only arbitrarily related through the formal identity of the word" (Carter 1987: 11-12).

One meaning of a polysemous word may be more central or dominant than other meanings. Though the word "foot" can be a part of the body, a base of something, or a measurement, the first meaning may be perceived as central for most speakers (McCarthy 1990). According to McCarthy, (1990: 25) the meanings of polysemous words that are commonly perceived as central or dominant may not be the ones that occur most frequently but are powerful:

> the power of the central meaning and its transferability across languages may be important features in how words are learnt and how different senses are felt to relate to the center or periphery of a word's meaning potential.

When processing written text, readers have to sometimes figure out which sense or meaning a particular word may refer to. Often the central or dominant meaning, the one that readers are

often familiar with, is the one that readily comes to mind. The main problem with polysemy is that some readers may experience difficulties when encountering words they are familiar with that have unfamiliar meanings in reading tasks. Johnson and Pearson (1978), speaking about problems of some children when encountering polysemous words, state that distortion of the text may result is the reader is not aware of other meanings for a word and do not use the context to help figure out the meaning of the word:

> A problem we have noted with many poorer readers is one we call 'word rigidity'. Simply, some children learn a meaning for a word and do not realize that the word has several other meanings. If they have not learned the various meanings and if they are not skilled at using contextual analysis, their comprehension of a passage can become severely distorted.

In fact, the danger of misinterpretation or distortion of the when encountering familiar words with different meanings may be greater than when encountering unfamiliar words. Deighton (1959) considers the difficulties of some readers in recognizing that familiar meanings of words may not fit in with the context in which they are found:

> Vocabulary may be extended by expanding meanings of words which seem quite familiar. These words, which seem so simple, so common, probably cause as much reading difficulty and as much failure in interpretation as all the unfamiliar words together. Common words may be used in new and strange combinations requiring the reader to adjust his understanding of them. The danger of misinterpretation is greater with the familiar words. The reader will recognize the unfamiliar word and be fully aware that he doesn't know its meaning. However, he may be quite unaware that the context makes the most frequent meaning of a familiar word quite unsuitable.

The distinctions between the dominant and derived meanings of polysemous words may be unclear, even in context, since the meanings are related. With homonymy, however, the problem may not be as significant, as the meanings are so categorically distinct that the context usually provides enough information to determine which of the alternative meanings is appropriate to the context in which the word is encountered (Durkin, Crowther, and Shire 1986).

Though polysemy may cause problems for child native language readers, as discussed above, how about for adult readers of a foreign or second language? The purpose of this study is to investigate the effects that encounters with multiple meaning of words may have upon the interpretation or comprehension of English text by adult non-native speakers. Toward this end, the main questions asked in this study are:

1. Is polysemy a potential source of comprehension difficulty among adult readers of a foreign language at advanced levels of reading and language proficiency? Do such readers have problems using contextual clues to recognize when a particular meaning they have chosen conflicts with information in the text?

2. How does the selection of alternative meanings of words that are inappropriate to the context affect the interpretation of the information in the immediate context of the word in the text? What is the nature of the effect that the assignment of inappropriate meanings may have upon the comprehension of the text overall? Is there a potential for adult foreign language readers to distort information in the text to fit the inappropriate meaning of a word?

Though adult readers may not have the problem of "word rigidity" that child readers with poor reading skills may have, as described by Johnson and Pearson, they may not be as skilled in their second or foreign language in using contextual clues to recognize when they have chosen an inappropriate meaning of a word or to choose between alternative meanings in a particular context. The problem may even be worse for foreign or second language readers than native-language readers, as problems with choosing the appropriate meaning of a word in a context may be exacerbated by problems with processing the language in the context as well as problems in transferring strategies and skills in using the context to infer meanings of words or disambiguate between more than one possible meaning.

Also, in looking at non-native language readers' interpretation of words in context, it is expected that encounters with polysemous words may affect foreign or second language reader's comprehension more than encounters with homonyms. As mentioned above with native-speaking readers, the different meanings of homonyms are distinct enough that the context may more clearly support one of the meanings. With polysemous words, the context may not serve to make distinctions between meanings as clear, since the different meanings are related.

Review of Studies on Polysemy and Comprehension

Studies on the effects of polysemous words on comprehension have been very limited to date. This section will summarize the results of three such studies: two among native-language children and one among adult foreign language readers. These studies, though limited, give some idea as to the extent of the problems that readers in general may experience when encountering polysemous words in comprehending written text.

One study by Crowther, Durkin, and Shire (1982) investigated children's use and understanding of relational terms, such as "up," "down," "high," "low," "above," "below," etc., used in describing relations in mathematics and music that are derived from core meanings used to describe spatial relationships. They found that their subjects tended to interpret such words in terms of their core, spatial senses rather than the derived meanings used in mathematics and music. For example, in one context, child native-language subjects (age 5 to 13) watched a videotape of a ghost ascending or descending a staircase while notes ascended or descended on the soundtrack. The subjects were asked to identify the direction of pitch of a sequence of notes where the aural information was, in some instances, congruent with visual information provided simultaneously, and, in other cases, incongruent. They found that in the mismatched condition in which the visual and aural cues were incongruent, the visual cues dominated, indicating that the children rely on the spatial sense of the polysemous terms used here when the evidence is unclear or confusing. They concluded that there existed a bias among some native-language children towards core meanings than derived meanings in comprehension of polysemous vocabulary.

Mason, Kniseley, and Kendall (1979) found a failure of native-language elementary school subjects to select less-common meanings of words in sentence contexts that supported the less common meanings. In this study, the subjects read polysemous words in sentences and were asked to identify the their meanings and later recall the words and contexts. They found that when words were placed in contexts which supported their most common meanings, subjects remembered the words and were more accurate in selecting the appropriate meaning than when

the contexts supported the less common meanings. They concluded that polysemy in reading tasks may cause difficulties in comprehension among children in the middle elementary grades, due to their lack of knowledge of less common meanings of words or their failure to attend to the necessary contextual cues.

In the lone study found by the author that deals with polysemy and reading in a foreign or second language, Bensoussan and Laufer (1984) studied the ability of English as a Foreign Language (EFL) adult readers to guess the meanings of words from context. In the study, sixty EFL students were asked to translate seventy words from English to Hebrew, first in a word list and then, a week later, in a long text. They found that one of the problems that their subjects had in incorrectly guessing the meanings of words in contexts was the failure of the subjects to correctly guess different meanings of polysemous words in unfamiliar contexts due to preconceived notions about familiar words. In a later article, Bensoussan (1986:404) spoke further about the treachery of familiar words:

> Some words are difficult because they are unfamiliar. Other words are treacherously familiar, but, used in unfamiliar contexts, they shift in meaning and may thus block comprehension of the text.

These few studies have indicated the potential for polysemous words to have negative effects upon the comprehension of text. Clearly more research is needed on such effects among readers in general and foreign or second language readers in particular since, as mentioned earlier, the problem may be even more acute among readers of foreign text. This study is an attempt to address this need and add to the limited knowledge of the effects of polysemy upon reading in a foreign or second language.

The Study

The research conducted in this descriptive study was qualitative in nature. The goal of the study was to investigate and describe the problems non-native adult readers may have in the comprehension and interpretation of second language text, particularly when the source of the problems or difficulties is polysemous words. Ten subjects for this study were selected from a convenience sampling of Korean graduate students studying at the University of California at Berkeley and the University of Texas at Austin who volunteered for this study. Subjects with relatively advanced language and reading proficiency were selected, with overall Test of English as a Foreign Language (TOEFL) scores of the subjects ranging from 577 to 603 and scores on the reading section of the TOEFL ranging from 59 to 61. The reading selection used in this study was a short story of over 1200 words: "The Open Window," by H. H. Munro. Munro's story concerned a man, Framton Nuttel, who had gone to a rural retreat for a "nerve cure". The story takes place at the house of a woman, Mrs. Sappleton, and her niece Vera, whom Nuttel had come to visit. His sister had given him letters of introduction to these and other people she knew. Framton meets the niece first, who tells him a story about how her aunt's husband and two brothers had died while hunting three years ago. She drew Framton's attention to some open French windows, telling him that her aunt refused to believe that her husband and brothers were dead. She kept the windows open everyday waiting for them to return and walk through them as they had always done before. The aunt then made her appearance and began talking of her husband and brothers as if they were alive and would return at any moment. Later, upon looking

out the open windows, the aunt announced that her husband and brothers were returning. Framton, looking out the window and seeing three figures approaching with a small hunting dog, ran away in terror, believing them to be the ghosts of the husband and brothers. The niece had been lying to Framton all along, however. She then made up a story about Framton's phobia about dogs as the reason why he had run away, in order to cover up her involvement in Framton's terror-stricken retreat. The story informed the reader that telling tales such as these was the niece's specialty.

For the post-reading part of the study, the story was divided into 57 blocks. Each block corresponded to one sentence, utterance, or question/response sequence in the story. A set of detailed questions about each block (for a total of 83 questions) were asked of each subject. For the focus on polysemous words in this particular aspect of the study, the questions served to elicit further information about the subjects' understanding of the text overall and of individual words. A verbal report protocol, a Think-Aloud task, was utilized in order to obtain on-line data on the interpretations of the subjects as they were processing information in the text. The subjects were tested individually and, after the steps of the study were explained and demonstrated using a sample story, were asked to read silently Munro's story. Twenty places were identified and marked in the story as points where the subjects were asked to report what they were thinking. Subjects were not forced to report anything at these places; they could report whenever they had something to say. These 20 places were analyzed as points at which inferences were likely to be made.

Subjects were asked to report what they were thinking at any point in the story that they became aware of any thoughts that they had at that time. Although they were asked to stop momentarily at each of the 20 marked points and report any thoughts, they were instructed that they were not required to stop and think about the story, just report any thoughts if they were aware of any at these points. If not, they were to continue reading.

The subjects were allowed to report in whichever language (English, Korean, or a combination of both) that they felt comfortable in reporting at any particular time. They were allowed to look back at any portion of the text they had already read, but were instructed not to look ahead. They were allowed to look up words in either an English to Korean or an English dictionary, and there was no time restriction on their reading of the story.

The post reading activity was then given orally in English, with translations into Korean whenever necessary. The subjects were permitted to answer in English or Korean.

Each subject took an average of three hours to complete the study. All of the data from the Think-Aloud task and the post-reading questions were recorded, translated, and transcribed. A qualitative analysis was done on the verbal report data to identify interpretations that the subjects had made and identify any problems that subjects may have had in processing polysemous words. Misinterpretations that subjects made were analyzed as to the source of the misinterpretation. Misinterpretations caused by the selection of a particular meaning of a polysemous word that was inappropriate in the context were identified, and the type and extent of the effect that the selection of inappropriate meanings had upon the local and global comprehension of the text was analyzed. A qualitative analysis was done of the answers of the subjects to the post-reading questions to get more detailed information about the subjects' interpretations of the story.

Qualitative Results of the Study

The data from the subjects' verbal report protocols indicate that half of the subjects had problems at one time or another with different meanings of polysemous words in the text. The problems arose when the subjects selected alternative meanings of polysemous words that were different than what the author had intended. The following is a description and analysis of such problems and the effects that these difficulties due to polysemous words had upon these subjects' comprehension of the text.

One sentence in the story in which the character of the aunt complained that her husband and brothers would make a "fine mess" on her carpets caused problems for two subjects. As mentioned earlier, one subject couldn't understand how a mess could be "fine". Another subject, "A", misinterpreted this in the sense of the husband and brothers having a good meal:

> they will have dinner or something like that, because it says here 'make a fine mess on my poor carpets', so they are gathered, returning from the mountain, they will eat something or enjoy something together.

This misinterpretation is due to the fact that the subject looked up the word "mess" in his Korean dictionary and picked the wrong interpretation, thinking "mess" meant "meal", as in "mess hall", as this meaning of "mess" would collocate with his interpretation of the word "fine", whereas the other meaning of the word would not. Since many Koreans eat sitting on the floor, he saw nothing strange about "making a fine meal on the carpet".

The story mentioned the word "nerve" three times: once in the context of "nerve cure", once in the context of "it got on her nerves" (meaning irritation), and once in the context "lose one's nerve" (meaning to become scared). One subject, "B", read all three references to "nerve" as in the sense of "mental pressure." In the part where the story mentioned about a habit of one brother that had always gotten on the aunt's nerves, the subject inferred that the aunt's mental health had been bad before the husband and brothers had died:

> This woman, the aunt's mental health must have been bad even before her husband died. You see here...because it got on her nerves.

Reading the part that refers to Framton's losing his nerve, the same subject inferred that Framton himself was crazy:

> It's quite contrary from what I had thought, but the real crazy person is Framton, not Mrs. Sappleton...Yes, Nuttel is crazy.

It seems that throughout the text, the subject focused on only one meaning of the word "nerve", while the text itself contained three different senses of the word.

Perhaps the best example of how the determination of an inappropriate meaning of a polysemous word can affect the interpretation of a text concerns the word "romance" in the last sentence of the story: "Romance at short notice was her specialty." The selection of other meanings of this word besides that intended by the author contributed directly to the overall misinterpretations of the story by two subjects, "A" and "D". "D" interpreted this word as

meaning "love" or "love affair", inferring that Framton Nuttel and the aunt were having a love affair:

> That [the sentence] means maybe Mr. Nuttel is a boyfriend of the aunt.

Consequently, this subject disconfirmed or changed much of her previous inferences and interpretations, reinterpreting the story in terms of an affair between the aunt and Framton. Throughout the recall and post-reading questions, she reinterpreted everything in terms of this inference, concluding that their affair was a secret that Framton was trying to hide, that the niece suspects and is trying to find out more, that the aunt may have been tired of her husband and perhaps wanted him to die, that the aunt was afraid that the husband would find out about the affair, that the niece told made up the story about why Framton ran away in order to cover up for her aunt, etc.

Subject A also chose a different meaning that affected his overall interpretation of the story. He even looked up the word in an English dictionary and, choosing the connotation of "fantasy", confirmed a previous inference that the appearance of the three figures had been an illusion, an hallucination:

> According to this sentence, the whole situation is just an illusion of Mrs. Sappleton...

Having initially thought that the aunt might have been hallucinating but then disconfirming this inference and inferring that the situation of the husband's return was real, the subject once again interpreted the husband's return as the aunt's illusion.

The selection of the right meaning of the word as "fiction" by two other subjects, "B" and "F", contributed heavily to their final interpretation that the girl had made up the story and fooled Framton, the major point of the story:

> She wanted to tease him [Framton]...she made up a story like this...she made a complete fool of Framton... (Subject B) "You know, this kid made up the whole story to everybody's surprise...[the sentence] means that this kid often lies like that. (Subject F)

Until their encounter with this last sentence, these two subjects had not made this interpretation, and the reading of this last sentence was sort of like an "a ha!" experience for them, as it finally helped put everything together into an interpretation that would account for all the character's' physical and verbal behavior up to that point. Though, as usually is the case, inferences and interpretations made early in the reading had a significant effect upon these subject's interpretation of the story, the interpretation of this final sentence, with the key word "Romance", had a great effect upon these subjects' final overall interpretation of this story.

A selection of the meaning of "recovery" as in the sense of one's body recovering from an illness or accident instead of the physical act of recovering a body from a swamp or bog had a significant effect upon the interpretation of the story by another subject, "I". The niece's story about the tragedy never said directly that the husband and brothers had died, but that they had been "engulfed in a treacherous piece of bog " and that their "bodies were never recovered ". It is the last word in the latter phrase that posed a problem for "I", as he interpreted the meaning

of the word "recovered " in terms of recovering their health, not physically getting their bodies back out of the bog:

> I don't think it was possible to recover her husband and kid's injured bodies back to normal. At any rate, her kid's and kid's dad no longer have normal physical condition, they became almost handicapped people and stayed that way...

Even in the post-reading part of the report, the subject maintained that the three had "lost their normal condition, became handicapped." This interpretation of the word in this manner led the subject to interpret a reason for the window being kept open that was contrary to that explicitly stated by the text:

> I think the reason why they kept that window open is to reminisce about the good old days...that is why the window is kept open, to bring back all the memories they have.

As well, the subject inferred that the aunt often spoke of how they had gone out that day because "she takes pleasure by helping and consoling their pain by bringing good old memories." Ultimately, not getting that the niece had said that they all three had died contributed to the subject's failure to not realize that the niece had been lying about the tragedy all along.

The word "retreat" in this sentence also could have posed a problem for Subject A. The first reference to this word in the story was in terms of Framton's migration to a "rural retreat". Later in the story, the word "retreat" was used again, in the connotation of "flight": "...the hall-door, the gravel-drive, and the front gate were dimly noted stages in his headlong retreat." Here, the subject failed to comprehend that Framton had run away from the house; with the phrase worded this way, and with the explicit reference to "retreat" taken in the sense as the earlier reference to "retreat", it appears that the subject may have interpreted the reference to the door, drive, and gate as parts of this "rural retreat" instead of stages in his "headlong retreat", which contributed to the subject's failure to comprehend that Framton was running away. This failure led the subject, upon reading the next sentence about a cyclist running into the hedge to avoid collision, to infer once again that the aunt was hallucinating. He correctly interpreted the linguistic information in this sentence, but, in not knowing that Framton was running away, did not know how to integrate this information with the story, so he seems to have assumed that this was an hallucination:

> [this sentence] means that it could well be possible that she [the aunt] is having a fit, this is her hallucination, and even the niece and Framton are hallucinating for a short time...what I see from these sentences, it seems to me that both of them are hallucinating...

The inference that Framton and the niece also may have been hallucinating, together with the linguistic information in the last sentence, contributed to this subject's final interpretation that the appearance of the husband and brothers was all an hallucination.

One subject, "C", had a problem with the word "soul".in the context of "not speak to a living soul". The subject seems to have interpreted "soul" in terms of its more central meaning of the spiritual, non material part of the body:

> ...because it says here 'soul', this word gives me a feeling that he wants to get to know real deeply. He likes to know people more deeply than just on a superficial level.

This interpretation may have influenced somewhat her interpretation of the sentence where Framton was wondering whether Mrs. Sappleton was one of the nice people his sister had spoken about. The subject continued on to infer that Framton was concerned with knowing people: "this is just my hunch...when he [Framton] meets a person, he wants to know if that person is a good-natured person or a bad-natured person...He doesn't want to deal with bad-natured people, he only wants to have a relationship with good-natured people."

Discussion of the Results

The results of this study indicate that problems and difficulties in the comprehension of text due to the polysemous nature of words that readers encounter in the text may not be limited to young, developing or poor readers. It appears from the data from the subjects' protocols that the potential exists for polysemous words to have negative effects upon the comprehension of foreign or second language text by proficient, adult non-native readers. Five of the ten subjects in this study experienced problems with the determination of the meaning of one or more polysemous words that was appropriate to the context in which the word was encountered. Some of these problems led to significant misinterpretations of the story.

It appears that these five subjects in particular were not always able to use clues from the context to judge how well particular meanings chosen for some polysemous words fit in with the rest of the text. For example, "C's" interpretation of the word "soul" was incongruent with the context in which the word was found. It may be that the first context, "not speak to a living soul", may have been insufficiently disambiguating to make it clear that the meaning of soul that the subject ascribed to the word was inappropriate to the context. However, the word "soul" appeared a little later in the story in the response "Hardly a soul" to the niece's question to Framton, "Do you know many of the people round here?" This context should have made clear that the meaning of "soul" as the spiritual, non-material part of the body was inappropriate, yet the subject did not seem to pick up on these clues from the context. The subject was unable to infer the correct meaning of "soul" as "person" from either of these contexts.

Another example of some subjects' inabilities to use clues from the context to disambiguate between different meanings of a particular word is "I's" determination of the meaning of "recover". In one sense, it seems understandable that there may be some confusion to a non-native reader as to the meaning of "recover" in the context of the word "bodies"; both meanings of the word include the sense of getting back something, either one's health or some material thing. However, the context preceding and following implicitly stated that the men had died and explicitly stated that the men had never returned, yet the subject interpreted this part as the men having returned as handicapped. In short, the subject failed to notice clues (syntactic as well as semantic) that implied that his interpretation of the word "recover" as return to one's health was inappropriate.

The main point is that these and other examples from the subjects' protocols indicate that, like the young readers Pearson and Johnson (1978) spoke of, these subject had difficulties using the context to figure out the appropriate meaning when encountering polysemous words in the

text. This suggests the possibility that even relatively proficient adult foreign language readers may sometimes encounter difficulties in analyzing and using contextual information in the determination of appropriate meanings in foreign language text, which may lead to distortions of the interpretations of the text.

Among the examples of negative effects of the selection of inappropriate meanings of polysemous words upon comprehension, there was a range of degrees to which the polysemous words affected the interpretation of the text. In many of the instances, such as the interpretations of the words "soul," "fine," and "retreat," the negative effects upon the comprehension of the text was limited to distortions in the interpretation of the immediate context in which the words were encountered. The inappropriate selection of meanings of some words, such as "recovered," had negative effects upon the interpretation of more extended parts of the text. Sentences that were contrary to the interpretation influenced by the selection of the meaning of the word "recovered" as getting back one's health, such as explicit statements by the niece that the men never returned or that the aunt, in her delusion, had for three years thought they would return, were either ignored or distorted by the subject to fit in with his interpretation. The interpretation of the aunt as waiting for her dead husband and brothers to return, with the implication that she was mentally abnormal, is a central element in the story that greatly influences later parts of the story. This subject failed to make these interpretations, in large part due to the interpretation that the husband and brothers were alive, but that their health had never recovered and they were now handicapped.

The inappropriate interpretation of the word "romance", as mentioned above, had even more of a global effect upon the comprehension of the text. As well as contributing to the distortion by Subject D of the immediate context in which the word was found (in leading the subject to interpret "her" in the sentence as referring to the aunt when it clearly referred to the niece), it contributed to her distortions of the interpretations of numerous other parts of the text, as briefly described in the results section. It led her basically to reconsider her overall interpretation of the entire text. For two other subjects, the appropriate interpretation of the word as "fiction" was the crucial piece of the developing puzzle that served to put the whole story together.

Conclusions and Implications

Although the limitations of this study, in terms of the type and size of the sample and the lack of replication with other stories, prohibit the generalization of these results to the general population of foreign language readers, the study does serve to portray the potential for polysemous words to negatively affect the comprehension of foreign language text by non-native readers. It indicates that some foreign or second language readers may experience difficulties in using the context to determine and select the appropriate meanings of polysemous words. It shows that the degrees to which selections of inappropriate meanings of polysemous words may affect or distort the interpretation of text range from negative effects upon local parts of the text in which the words are found to effects upon global parts of the text, depending upon factors such as association of the misinterpreted word with central elements or themes of the text, strategies readers employ to deal with inconsistencies with these interpretations and later information in the text (whether they ignore the contradictions, transform the information in the text to fit in with the misinterpretation, or whether they question and/or disconfirm the previous misinterpretation), etc.

More research is needed to determine the scope of the problems polysemy may pose for foreign and second language readers at varying levels of reading and language proficiencies. Why may some readers have more problems in dealing with the polysemous nature of words than other readers? Are impulsive readers or readers who are bigger risk-takers more prone to problems with polysemous meanings? What factors may serve to exacerbate or mitigate negative effects of misinterpretations due to polysemous words upon comprehension of the text? How much of a problem does polysemy pose for readers in other languages besides English? The issues raised by these and other questions dealing with polysemy seem worthy of further study, particularly when so little research has been done to date.

However, some general, preliminary implications can be drawn from this and other studies concerning polysemy and reading mentioned above. Some foreign and second language readers may need to become more aware of and sensitive to the potential for the words they encounter to have more than one meaning. Though activities to teach multiple meanings of words to students exist, such as definition or usage activities, definition matching and sentence matching activities, and sentence writing activities (Dale and Johnson 1978: 43), there are simply too many words that have multiple meanings to realistically consider direct teaching of various meanings of specific words. Johnson and Pearson (1978) estimate that 72% of the words in the Ginn lexicon of 9,000 words have multiple meanings. Rather than trying to teach many of these words to English as a Foreign or Second Language students directly, sensitizing learners to the potential for encountering polysemous words frequently in the English language and teaching students how to deal with polysemous words would seem more useful for EFL and ESL students. Advice that Graves (1987: 178) gives for teachers of native language young readers may be appropriate as well to foreign and second language readers:

> Students need to learn that a great many words have multiple meanings, that polysemous words can constitute a source of difficulty in their reading, and that some words have specialized meanings in particular subject areas. (p. 178)

This advice seems particularly appropriate to younger EFL or ESL learners who may not have had much experience with polysemy in their own language, much less in their foreign or second language.

As one way of sensitizing and helping foreign and second language readers deal with polysemy, Nation (1990) suggests activities that demonstrate common underlying features of various related meanings of polysemous words:

> By drawing attention to the presence of all these features of meaning in whatever use of the word is being taught, the other uses of the word will be more readily learned....If it is not easy to show how the various uses of a word are related to ideas that apply to all uses then the learning burden of the word is heavy. If the various uses can be related to common ideas the learning burden is light. (pp. 41-42)

Nation recommends using such activities to help students, when they learn a vocabulary word in class, to develop a sense of underlying meanings that may be common to other meanings of that particular word. One way to do this is an exercise developed by Visser (1989) to help foreign and second language learners construct underlying meanings of the different senses of polysemous words. One example of this that Nation (1990: 42) provides is given below:

Column 1	Column 2	
If you *release* a person or animal that has been in captivity, you set them free. Give a reason why a prisoner might be released. (Nation, 1990, p. 42)	*Release* is a feeling that you have of no longer suffering or having to worry about something. Describe a time when you have had a feeling of release.	Say what the similar ideas/ features are in Columns 1 and 2.

These type of activities are ways one can directly help students become aware of polysemy and certain underlying concepts of words. However, we also have to help our students learn how to deal with polysemy when they encounter it, particularly in reading. The best way we can help our foreign or second language learners learn to cope with polysemy in reading is simply to help them develop or transfer effective reading skills and strategies in general. Some of the problems that the subjects in the study reported on earlier involved making erroneous interpretations or inferences that were influenced by the selection of inappropriate meanings for certain words, such "recovery" or "romance". We can expect that our students may sometimes make erroneous interpretations based on choosing a familiar meaning of a word that does not correspond to the meaning intended by the author. However, we should not expect our students to continue reading and not recognize their mistake in the face of contradictory or inconsistent new information or, if they do recognize such inconsistencies, then either ignore the inconsistency or distort the information in the text to fit with their prior inferences or interpretations. We need to help students develop or transfer the abilities to effectively monitor and evaluate the match between their understanding or interpretation of the text and the text itself, so they can recognize inconsistencies or contradictions between meanings of particular words they have chosen or inferred and information later in the text. Finally, we need to help our readers develop or transfer appropriate strategies to deal with inconsistencies between prior interpretations and later information in the text that they recognize. Instead of discounting inconsistencies or distorting the text to fit erroneous prior interpretations, we can help students develop the strategies of looking for information that confirms prior interpretations or inferences and, when encountering contradictory evidence, the strategies of questioning or disconfirming prior interpretations, considering alternative interpretations, looking at the problem from a different perspective, or any other strategy that will help them solve problems caused by contradictions between prior inferences or interpretations and later information in the text. Phillips (1987) and Kang (1991) discuss some of these strategies in more detail.

One way to help students develop these monitoring skills and the skill of looking more closely at the text for information that confirms or disconfirms inference is a reading activity called the Directed Reading Thinking Activity (DRTA). This is a teacher-directed group activity (or an individual activity as well) that has students, at selected points in the text, stop and make hypotheses and predictions about what they think is happening at that point and what they think will happen next. The students are required to support and confirm their hypotheses and predictions with information from the text (or disconfirm them, if they later find contradictory evidence in the text). Descriptions of the activity and how to use it with students can be found

in numerous texts on teaching reading, such as Tierney, Readence, and Dishner (1990) or Walker (1988).

As well, the ability to utilize the skill of inferring meanings of words from the context is important when encountering familiar words as well as unfamiliar words. We can help our students by helping them develop strategies to use in inferring meanings from the context. Such instruction should consist of more than just providing students with short explanations and examples of a few context clues. A more thorough program for helping students develop skills in using the context to infer meanings can be found in Sternberg (1987). He advocates teaching people not only the cues that can be commonly (or rarely) found in text, but also the processes and moderating variables involved in learning words from context. Three processes of learning vocabulary from context that he identifies are:

1. Selective encoding - separating relevant from irrelevant information in order to formulate a definition
2. Selective combination - combining relevant cues into a definition
3. Selective comparison - relating new information about a word to old information stored in memory

Along with these processes, he identifies eight context cues upon which these processes can be applied: temporal, spatial, value, stative descriptive, functional descriptive, causal/enablement, class membership, and equivalence cues. The moderating variables that determine the ease or difficulty of applying the processes to the cues are:

1. Number of occurrences of the unknown word.
2. Variability of contexts in which multiple occurrences of the unknown word appear
3. Importance of the unknown word to understanding the context in which it is embedded
4. Helpfulness of surrounding context in understanding the meaning of the unknown word
5. Density of unknown words
6. Usefulness of previously known information in cue utilization (For more detailed information, see Sternberg, 1987: 91-94)

This program provides students with a more accurate and comprehensive set of skills and knowledge about how, and to what extent, they can use the context to get a better sense of the intended meaning of the word in a particular context.

In short, we need to make our students of a second or foreign language more aware of the ubiquitous nature of polysemy in English or other foreign languages. Since foreign language readers encounter problems with polysemy in reading, we need to help them learn how to recognize when such problems exist as well as what to do to help resolve the problems caused when they experience the "treachery of familiar words" that Bensoussan (1986) spoke of.

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